Required Report - public distribution

Date: 9/3/2013

GAIN Report Number:

Ghana

Agricultural Biotechnology Annual

Ghana Agricultural Biotechnology Annual

Approved By:
Russ Nicely
Prepared By:
Elmasoeur Ashitey

Report Highlights:
The President of the Republic of Ghana signed the Ghana Biosafety Act, 2011 (Act 831) December 2011 following the passage of the Biosafety Bill by the Ghanaian Parliament, in June 21, 2011. This will create a favorable environment for the development and commercialization of biotechnology seeds and crops. The Biosafety Act, 2011 (Act 831) establishes the National Biosafety Authority (NBA) as the administrative body that will manage the implementation of all issues related to Biotechnology in Ghana. The governing body of the NBA is a Board whose chairman and members are yet to be appointed by the President. The crops that have been approved by the NBA for confined trials include Bt cowpea, high protein sweet potato, rice and Bt cotton. However, Bt. cotton has been approved for field tests in Ghana. Ghana's biosafety law is considered user friendly as it does not contain any labeling requirements for biotech or genetically engineered food products or strict liability provisions. This should help the country to respond to the challenges of food security and climate

change.

Section I. Executive Summary:

U.S. food exports to Ghana consist primarily of rice, poultry, wheat and other consumer oriented food products. U.S. Census Trade Data showed an all time high in total US agricultural exports in CY 2012 with exports at $176.6 up from $110.5 million, in 2011. Although US rice exports to Ghana is high, rice from Asian sources is in strong competition. U.S. rice exports in CY 2012 were $62 million up from $57.8 million in CY 2011. The U.S. is one of the major suppliers of poultry in Ghana with the main competitor being Brazil. In 2012 U.S. exports of poultry to Ghana continued to be an all time high sales of $62.8 up from $34 million in 2011. US wheat exports to Ghana was $8 million down from $12.4 million. U.S. exports of high value products (HVP), including vegetable oils, fruit and vegetable juice, pulses, processed fruits and vegetables, sweeteners, dairy products and other products, continues to grow.

The President of the Republic of Ghana signed the Ghana Biosafety Act, 2011 (Act 831) in December 2011 following the passage of the Biosafety Law by the Ghanaian Parliament, in June 21, 2011. The Ghana Biosafety Act, 2011 (Act 831) establishes the National Biosafety Authority as the administrative body responsible for all issues related to Biotechnology in Ghana. Currently a National Focal Point for Biosafety has been established as the secretariat that receives the Biotechnology applications.

The Act establishes biosafety regulations that will govern procedures for contained research work and field trials on biotechnology products; release into the environment, commercialization, importation, exportation and transit of agricultural biotechnology products. The Act does not apply to biotechnology products that are pharmaceuticals for human use.

The Ghana Biosafety Act, 2011 (Act 831) is creating an enabling environment for the development and commercialization of biotech seeds and crops such as biotech varieties of cotton, sweet potato, cassava, cowpea, corn, soy, and ric**e**. The Biosafety legislation does not contain any labeling requirements for biotech or genetically modified food products, or strict liability provisions. The Biosafety Act 2011 (Act 831) stipulates that, all biotechnology products will require a permit from the National Biosafety Authority. Under the biosafety law, existing regulatory agencies such as the Ghana Food and Drugs Authority (FDA); Environmental Protection Agency (EPA); Ministry of Food and Agriculture (MOFA)and Ghana Customs will be responsible for monitoring and enforcement of biotechnology products.

Prior to the Passage of the Biosafety Bill the Ghana parliament passed a Biosafety Legislative Instrument (LI) in May 2008 that authorized the conduct of confined field research/trials of genetically engineered products but did not allow for the commercialization or release of products to farmers and consumers.

Ghana ratified the Convention on Biological Diversity on August 29, 1994 and the Cartagena Protocol on Biosafety on May 30, 2003. The United Nations Environment Program and the Global Environment Facility (UNEP/GEF) provided financial and technical support for the drafting of the Biosafety Framework for Ghana that was completed in July, 2004. The USAID-sponsored Program for Biosafety Systems (PBS), implemented by a consortium led by the International Food Policy Research Institute

(IFPRI), also played a significant role in developing the underlying legal framework for biotechnology and biosafety policy in Ghana in 2004-2008. In recent years PBS has been hosted in West Africa by the Forum for Agricultural Research in Africa (FARA).

Section II. Plant Biotechnology Trade and Production:

Chapter 1: Plant Biotechnology

Part A: Production and Trade

a) Product Development:

The Ghana Biosafety Act, 2011 (Act 831) has paved the way for a number of biotech seeds and crops to be developed for the Ghanaian market over the next few years, including varieties of cotton, sweet potato, cassava, cowpea, corn, soy, and rice. The capacity and knowledge exist for the development and production of modern agricultural biotechnology crops. According to the Government of Ghana (GOG) sources, most research institutes have stated that biotechnology activity in Ghana is still at the diagnostic level. Scientists now are assessing the genetic diversity of both food crops and industrial crops, focusing on pests, diseases, yields and maturity periods as a prelude to modern biotechnology development.

There are no biotechnology crops currently under development in Ghana that will be on the market in the near term. With the passage of the Ghana Biosafety Act, 2011 (Act 831), some contained/confined experiments/trials using modern agricultural biotechnology methods are being carried out by research institutes and universities in Ghana. The crops that have been approved by the NBA for confined trials include Bt cowpea, high protein sweet potato, rice and Bt cotton. Other contained researches being undertaken are virus disease resistance in cassava, and improvement of lysine strain in corn. However, Bt. cotton has been approved for field trials in Multi-locations in Ghana.

Presently biotechnology research is being regulated by the National Biotechnology Committee (NBC). This is because the new law states that *"until regulations are made to implement the law, the L.I 1887 which regulates research will continue to operate as if made under the law"* according to GOG sources.

b) Commercial Production: Ghana does not commercially produce any biotechnology crops.

c) Exports: Not applicable

d) Imports: Ghana officially does not import bioengineered products. Agricultural products such as soybean meal, soybean oil and processed foods are freely imported from the United States, the European Union, Argentina and Brazil that may contain biotechnology elements.

d) Food Aid: There are no U.S. food aid programs currently in Ghana.

Section III. Plant Biotechnology Policy:

Part B: Policy

a) Regulatory Framework:

The GOG established the National Biosafety Committee in 2002 whose mandate was to draft the Biosafety Bill, produce guidelines for the implementation of the biosafety law and to prompt the GOG forward on Biotechnology issues. It is made up of officials of government institutions, scientists, farmer organizations, and other stakeholders. It is a working committee that continuously dialoged with the GOG for the passage of the Biosafety law. It drafted the Biosafety Bill in 2004 and produced the National Biosafety framework and biosafety guidelines.
The Ministry of Environment, Science, Technology and Inovation (MESTI) which is the focal point for Biosafety in Ghana has established the National Biosafety Authority to manage the implementation of the Ghana Biosafety Act 2011 (Act 831). Currently MESTI is in the process of forming the Board that will manage the NBA.

i. Responsible Institutions for Implementing the Biosafety Bill

The institutions to be set up by the GOG now that the Ghana Biosafety Act 2011 (Act 831) has been passed are:
The National Biosafety Authority (NBA)
The Technical Advisory Committee (TAC)
Institutional Biosafety Committees (IBC)
NBA is the designated national authority on all issues related to modern agricultural biotechnology in Ghana. All applicants, except for contained use and field trials, will go through this authority. The governing body of the NBA is a Board whose chairman and members are appointed by the President for a period of three years.
TAC will consist of not more than eleven individuals from the regulatory agencies and from the private sector who are knowledgeable in science and socio-economic matters related to biotechnology. TAC is the national advisory committee on matters concerning or related to biotechnology and will carry out risk assessments of applications at the request of the Board. The Minister of Food and Agriculture appoints the members based on recommendations by the Board for a period not exceeding five years.
IBC reviews applications for contained use and field trials.
The regulatory agencies of the Government of Ghana responsible for monitoring and enforcement will also be represented on the TAC. They include:

- The Food and Drugs Board (FDB)– Food safety and related matters
- Plant Protection and Regulatory Services/MOFA – Plant health and related matters
- Veterinary Services Department/MOFA – Animal health and related matters
- Environmental Protection Agency – Environmental releases and related matters
- Customs, Excise and Preventive Services – Border handling of biotechnology products in collaboration with agencies listed above.

ii. Role and membership of the National Biosafety Authority (NBA)

The National Focal Point on Biosafety in Ghana is the Ministry of Environment, Science, Technology and Innovation (MESTI). MESTI will be responsible for liaising with the Secretariat of the Convention

on Biological Diversity for the administrative functions required under the Cartagena Protocol on Biosafety.

The Ghana Biosafety Regulatory System is a coordinated framework and the Biosafety Act establishes the National Biosafety Authority (NBA), which will be interdisciplinary in nature, to process applications relating to biotechnology substances under the Act. The NBA will ensure adherence to the Cartagena Protocol on Biosafety through implementation of the national biosafety guidelines and other regulations. Additionally, the Act makes provision for a governing Council, the Board, to have a technical advisory committee that will provide advice to the Board. Establishment of an Institutional Biosafety Committee (IBC) is also provided under the Act. The Biosafety Act also provides for issuance of further guidelines to facilitate better performance of the National Biosafety Authority (NBA).

The NBA will have the powers as stated under section 39 of the Biosafety Act 2011 (Act 831) to draft and adopt regulations or guidelines to ensure safety of humans and the environment; stop a project through the relevant IBC after establishing that further continuation of the project is unsafe to the personnel, community and environment; and approve deregulation of all regulated materials for free movement and commercial release on the recommendation of relevant IBCs. The Act states that a person or organization intending to introduce a bioengineered product into the environment or import or place a bioengineered product on the market must first obtain the written approval of the NBA.

Composition of the governing body of the National Biosafety Authority includes:

1. An expert in biotechnology and related biological sciences including biosafety, as Chairman;
2. The Chairman of the Technical Advisory Committee;
3. The Chief Director, or the representative of the Ministry of Environment, Science, Technology and Innovation;
4. One representative, Association of Ghanaian Industries (AGI);
5. One legal practitioner of not less than ten years experience;
6. One representative of non-governmental organizations (NGO);
7. One member from Academia;
8. One member from the Council for Scientific and Industrial Research;
9. One member from the Ministry of Food and Agriculture;
10. One member from Ministry of Health;
11. Customs Division of the Ghana Revenue Authority;
12. The Chief Executive Officer, National Biosafety Authority.

iii.<u>Assessment of Political Factors</u>

The Biotechnology and Nuclear Agricultural Research Institute (BNARI) of the Ghana Atomic Energy Commission (GAEC) coordinated the project to draft a Biosafety Framework for Ghana between November 2002 and July 2004. UNEP/GEF provided financial and technical support for the project. The framework is unique to Ghana but it is modeled after the UNEP/GEF blueprint which includes: a government policy on biosafety, a regulatory regime, a system to handle requests for authorizations (including risk assessment, decision-making) and administrative functions, systems for 'follow up' (such as enforcement and monitoring for environmental effects), and systems for public awareness and

participation. The text of the Framework and draft Biosafety Bill is available at the UNEP/GEF website: (www.UNEP.ORG).

Before the Ghana biosafety law was passed the Ghanaian's position on biotechnology was guided by other principles stated in the National Science and Technology Policy (2000), the Constitution (Art 36, 41) and the Ghana Poverty Reduction Strategy (GPRS). However, at the same time the GOG ratified the Cartagena Protocol on Biosafety in May 2003. The Ghana biosafety Act 2011 (Act 831) have been passed and appears favorable to the use and acceptance of biotechnology. Therefore, the "precautionary approach and the environmentally sound management of biotechnology" are also factors that were strongly considered in drafting the Framework and Biosafety Act. For example, the Act begins by stating that the first objective is "to ensure, in accordance with the precautionary principle, an adequate level of protection in the field of safe transfer, handling and use of Genetically Modified Organisms (GMO) that may have an adverse effect on the environment."

iv. Distinctions Between regulatory treatment of approval:

The Ghana Biosafety Act 2011 (Act 831) approval process is the same for food, feed, processing and environmental release.

v. Reference to pending legislations and regulations:

FAS Accra is not aware of any pending legislation and regulations with the potential to affect US exports. The process of drafting implementing regulations has been slow because of change in administration.

vi. Timeline for approvals

The Ghana Biosafety Act 2011 (Act 831) does not contain any timeline for the approval of biotech or bio engineered food products. Timeline for approval is dependent on the application submitted to the NBA. Below is the flow chart for the review of biosafety applications:

vii. Any trade policies on Biotechnology without Legislations and/or regulations: Not applicable.

b) Approvals:

At present no biotechnology crops (industrial crops, food crops, or feed) has been approved or registered in Ghana for cultivation, import or export.

c) Field Testing:

Since the passage of the Ghana Biosafety Act 2011 (Act 831) only Bt. cotton has been approved for field testing in Multi-locations in Ghana. Other crops being developed for future field testing are Bt cowpea, high-protein sweet potato and nitrogen-efficient, water-efficient and salt-tolerant rice.

d) Stacked Events:

The NBA does not require additional approval for stacked events.

e) Additional Requirements:

The Ghana Biosafety Act 2011 (Act 831) does not specify any additional product/seed registration or re-registration.

f) Coexistence:

The Ghana Biosafety Act 2011 (Act 831) is silent on co-existence.

g) Labeling:
Ghana requires labeling for packaged foods and feeds. The Foods and Drugs Board (FDB) General Labeling Rules, 1992, (L. I. 1514) stipulates that food labeling be informative and accurate. Labeling of packaged and prepackaged products is for purposes of health, food safety and need to know. The minimum labeling requirements are that labeling should be clear, concise and in English; should have product name, net mass/weight, batch number and expiry date; list of ingredients and food additives must be stated. It is mandatory to label any prepackaged food item that has nutritional composition. The Biosafety legislation does not contain any labeling requirements for biotech or genetically modified food products, or strict liability provisions. General labeling regulations for food products are strictly enforced, but they are not specific to biotechnology products.
h) Trade Barriers:
FAS/Accra is not aware of any biotechnology-related trade barriers affecting U.S. exports to Ghana.
i) Intellectual Property Rights (IPR): Ghana is a member of the World Intellectual Property Organization (WIPO), the Universal Copyright Convention (UCC) and the African Regional Industrial Property Organization (ESARIPO). Manufacturers and traders are strongly advised to patent their inventions and register their trademarks in Ghana, and to do so through a patent or trademark agent. Fees for registration vary according to the nature of the patent, but local and foreign applications pay the same rate.
The Ghanaian system for patent and trademark protection is based on British law, and it was only in 1992 that the patent laws of the UK ceased to apply in Ghana. Local courts offer redress when infringements occur, though few cases have been filed in recent years.
The Copyright Act was passed in 1961 and the Trademark Act in 1965 (amended in 2004). The Copyright Administration in Ghana is responsible for patents, copyright and trademarks. Registration of a trademark permits the holder to have the exclusive right to use the registered mark for a specific product or group of products. Upon approval of a patent, the applicant is given the exclusive right to make, export, import, sell, use a product or apply a patented process.
The Copyright Act of 1965 (amended in 1970 and 2005) makes it a criminal offense to make counterfeit, reproduce, export, import, exhibit, perform, or sell any work without the permission of the copyright owner. The Biosafety law does not contain any IPR requirements for biotechnology food products.

j) Cartegena Protocol Ratification:
Ghana ratified the Convention on Biological Diversity on August 1994 and the Convention's Cartegena Protocol on Biosafety on May 30, 2003. As stated in the National Biosafety Framework for Ghana, the Protocol is in consonance with the Ghana Constitutional obligations, Ghana environmental law and policy and the fulfillment of Ghana's treaty obligations. FAS/Accra is not aware of any significant impact on trade.
k) International Treaties/Fora: FAS/Accra is not aware of any biotechnology position that Ghana may have taken in International Treaties/Fora.

l) Related Issues: Not applicable
m) Monitoring and Testing:
The Ghana Biosafety Act 2011 (Act 831) makes provision for the establishment of a monitoring body for biotechnology products. However, a monitoring program of genetically engineered food products is yet to be developed. FAS Accra is not aware of any active testing for genetically engineered products.
n) Low level Presence Policy: FAS/Accra is not aware of any Low level Presence Policy.

Section IV. Plant Biotechnology Marketing Issues:

Part C: Marketing

a) Market Acceptance
In Ghana, the majority of people are not aware of modern agricultural biotechnology products and the issues involved. The academia, researchers and GOG officials are mostly the stakeholders in biotechnology discussions. Very few farmer representatives are involved in biotechnology fora. Most food producers would accept biotechnology if yields of genetically engineered food product will increase. Post discussions with representatives of some local Farmer Organizations (NGOs), revealed that farmer organizations have been involved in the development of the Biosafety Framework for Ghana. Their major concerns, regarding public awareness, participation and decision-making have been included in the biosafety guidelines and expect that their views are addressed during the implementation process.
b) Public/Private Opinions:
The passage of the Ghana Biosafety Act 2011 (Act 831) law was opposed by some Non-governmental organizations such as Friends of the Earth and Food Sovereignty Ghana. These objections were published in the print media, internet and discussed on a few radio stations. In early July 2013 the Food Sovereignty Ghana (NGO), called for 'a ban on the importation, cultivation, consumption, and sale of genetically modified foods and crops in Ghana, until the people of Ghana are satisfied that such an important and irrevocable decision is a sound and proper one to make'. They also refused to attend a round table meeting organized by the US Embassy, Accra. The full text can be found on www.foodsovereigntyghana.org
In the last few years there has not been any major negative reaction on the development of biotechnology products from the public or private sector.
c) Marketing Studies:
Information and discussions of modern biotechnology have been ongoing among GOG officials, scientists and researchers. Post is not aware of any specific study assessing Ghanaians' acceptance of biotechnology products. However, Post expects that the Ghanaian producer, importer, retailer and consumer would accept biotechnology inputs if it increases seed production and income. Currently Ghana imports processed products from South America, Europe and the United States that may contain biotechnology elements.
Ghana currently exports non-traditional food products especially pineapples, bananas and chili peppers

to Europe.

Section V. Plant Biotechnology Capacity Building and Outreach:
Part D: CAPACITY BUILDING AND OUTREACH:

a) Activities:

Ghana is clearly moving forward on biosafety and biotechnology with the passage of the Biosafety Act 2011 (Act 831) in December 2011. Ghana could benefit from capacity building outreach programs that would support science based regulatory efforts and provide accurate information to the broader public on the positive benefits of biotechnology.

USDA has funded biotechnology training over the last few years via the Norman Borlaug Fellowship and Cochran Fellowship programs. In addition, USAID, through the Global Program for Biosafety Systems (PBS), has been promoting the judicious use of modern biotechnology in Ghana to increase agricultural productivity with linkages to regional and global markets. The International Food Policy Research Institute (IFPRI) was the lead institution implementing the project. U.S. based biotechnology research institutions participated in the program. The overall objectives of the PBS program include: 1) Establishing an enabling environment for the testing and use of biotechnology products; 2) Strengthening the skills and increasing capacity for near-term conduct of field trials and food safety assessments; 3) Developing and implementing a strategic plan for communication and outreach that engages diverse stakeholders and the general public.

PBS has been working primarily with the Forum for Agricultural Research (FARA), International Food Policy Research (IFPRI), Biotechnology and Nuclear Agricultural Research Institute (BNARI) of the Ghana Atomic Energy Commission (GAEC). Other partner institutions and key stakeholders, and people to whom the message has been targeted include the Ministries of Environment, Science and Technology; Food and Agriculture; Trade and Industry; and Health, universities, research and other public and private sector groups. Parliamentarians have also been sensitized on biotechnology through the efforts of PBS.

b) Strategies and Needs:

In order to facilitate the GOG effort to move forward on biotechnology regulation, there is the need to continue to boost awareness among government officials, academia, and other stakeholders especially farmers. Capacity building and training is required for the personnel of the Ministries of Food and Agriculture, Environment, Science and Technology, and other officials to be able to develop a biosafety protocol. Technical Assistance may also be welcome in setting up the National Regulatory Authority office and secretariat to draft implementing regulations for the Biosafety Act 2011 (Act 831); to accept and consider applications for confined field trials or commercialization of biotech products; and to conduct outreach and awareness raising activities among potential applicants, agribusiness, farmers, and stakeholders regarding the regulatory system and application process.

Section VI. Animal Biotechnology:
Chapter 2: Animal Biotechnology
Part E: Production and Trade

a) Product Development: Not applicable
b)Commercial Production: Not applicable
c) Exports: Not applicable
d) Imports: Not applicable

Part F: Policy

a)Regulation: Not applicable
b) Labelling and Traceability: Not applicable
c) Tade Barriers: Not applicable
d) Intellectual Property: Not applicable
e)International Treaties/Fora: Not applicable

Part G: Marketing

a)Market Acceptance: Not applicable
b)Public/Private opinions: Not applicable
c) Market studies: Not applicable

Part H: Capacity Building and Outreach

a)Activities: Not applicable
b) Strategies and Needs: Not applicable

Section VII. Author Defined:

Russ Nicely
Regional Agricultural Counselor
Office of Agricultural -Affairs
US Consulate General
2, Walter Carrington Crescent
Victoria Island, Lagos-Nigeria
Telephone: (234) 1-460-3577
E-mail: aglagos@usda.gov

Elmasoeur Z. Ashitey (Mrs)
Agricultural Specialist
Office of Agricultural Affairs
American Embassy
No 24, Fourth Circular Rd.,
Cantonments, Accra, Ghana
Tel: 233-302-741421
Fax: 233-302-741478
E-mail: agaccra@usda.gov